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STATE OF COLORADO

BUREAU OF MINES

State Capitol, Denver

FRED JONES, *Commissioner of Mines*

ANNUAL REPORT

for the Year 1947

APPROVED
STATE CONTROLLER



Publication Approved by James A. Noonan, Controller

THE BRADFORD ROBINSON PTE. CO., DENVER

STATE OF COLORADO

BUREAU OF MINES

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LETTER OF TRANSMITTAL

To His Excellency,
THE HONORABLE WILLIAM LEE KNOUS,
Governor of Colorado.

Sir: In compliance with Chapter 110, Section 285 of the Colorado Statutes Annotated 1935, I have the honor to transmit herewith the Annual Report of the State Bureau of Mines for the year 1947.

Respectfully submitted,
FRED JONES,
Commissioner of Mines.

State Capitol,
Denver, Colorado,
June 15, 1948.



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**PERSONNEL OF THE BUREAU OF MINES OF THE STATE
OF COLORADO**

FRED JONES, Commissioner of Mines.....Denver
GEORGE BECKER, Inspector, District No. 1.....Denver
FRED E. THEOBALD, Inspector, District No. 2.....Canon City
R. J. MURRAY, Inspector, District No. 3.....Salida
D. C. McNAUGHTON, Inspector, District No. 4.....Silverton
ETHEL F. McCARTHY, Chief Clerk.....Denver
MARGARET F. SMITH, Stenographer and Clerk.....Denver
MARY A PIPER, Stenographer.....Denver
MARGARET JANE HAYWARD, Clerk-Typist.....Denver

DISTRICTS OF INSPECTION

DISTRICT NO. 1—Adams, Arapahoe, Boulder, Clear Creek, Denver, Gilpin, Grand, Jackson, Jefferson, Larimer, Logan, Moffat, Morgan, Phillips, Routt, Sedgwick, Summit, Washington, Weld and Yuma counties.

DISTRICT NO. 2—Baca, Bent, Cheyenne, Crowley, Custer, Douglas, Elbert, El Paso, Fremont, Huerfano, Kiowa, Kit Carson, Las Animas, Lincoln, Otero, Park, Prowers, Pueblo and Teller counties.

DISTRICT NO. 3—Alamosa, Chaffee, Conejos, Costilla, Eagle, Garfield, Lake, Mineral, Pitkin, Rio Blanco and Rio Grande counties, and that portion of Saguache county lying south and east of the main Continental Divide, and the extreme northwest part of Gunnison county, lying north of the 39th degree of latitude.

DISTRICT NO. 4—Archuleta, Delta, Dolores, Hinsdale, La Plata, Mesa, Montezuma, Montrose, Ouray, San Juan and San Miguel counties and all of Gunnison county except the extreme northwest corner lying north of the 39th degree of latitude, also that part of Saguache county lying north and west of the main Continental Divide.

COLORADO STATE BUREAU OF MINES

OFFICES AND MINERAL COLLECTION

Entire Second Floor

MUSEUM BUILDING

14th Avenue and Sherman Street

Denver (2), Colorado

The mineral exhibit occupies three large rooms on the second floor of the Museum building. The middle room contains cases showing gold, silver, lead, copper, zinc, and iron; also fluorspar, molybdenum, uranium, vanadium and agate. The east room contains a number of cases of non-metallics, and several private collections. The west room contains the John G. Morgan collection, the Harry A. Lee collection, and the Colorado Scientific Society collection consisting of 770 specimens. There are also cases of tungsten, manganese, and rare minerals. At the present time the number of specimens totals over 11,000.

About 210 specimens were added to the collection during 1947. Of special interest are mineral collections from L. J. Lawrence (Australian minerals), from Mrs. Martha Robb, Mrs. E. E. Tooley, Mrs. J. B. Cohen, and coal specimens from Hugo Machin and Thomas Allen.

Very often the Bureau is called upon to show specimens from inaccessible mines, and also minerals for comparison. Many miners and prospectors spend hours in the Museum looking over the various county cases. However, for the Museum to remain up to date, constant additions must be made. Gift certificates signed by the Governor and Commissioner of Mines are sent out to donors of specimens. We ask for the cooperation of the mining men of Colorado in obtaining specimens and increasing the quantity and quality of those we already have.

Classes from various schools in Denver and from throughout the State visit the Museum yearly or oftener. Over 100,000 people looked over the exhibit in 1947. These visitors came from every state in the Union.

The Museum is open to visitors from 8:30 a.m. to 5 p.m. and on Saturday from 9 a.m. to 12 noon. Mrs. Mary Piper is in charge of the exhibit.

ETHEL F. McCARTHY,

Chief Clerk.

MINING

1947

FRED JONES

Commissioner of Mines

The forecast of the last Annual Report for the mining industry of Colorado has been justified by the record of the production as shown in this 1947 Annual Report. This production was made in spite of the discarding of the bonuses, June 30, 1947, paid on copper, lead, and zinc. There proved to be a constant reduction of producing properties from that time for the remainder of the year.

The production of \$23,403,239 for gold, silver, copper, lead, and zinc, showed an increase of \$3,499,730 over the 1946 production.

During the year 1947, 290 mines, 33 placers, 82 quarries and plants, and 22 custom mills, averaged 7,141 daily man shifts. The road work and tunnels averaged 1,132 daily man shifts and Denver County averaged 129 daily man shifts in two plants. This made a total of 8,402 men working daily in the mining industry of Colorado, exclusive of coal.

The activities of the State Bureau of Mines did not change throughout the year with the exception of taking on added duties imposed by Senate Bill No. 303. This bill became effective May 9, 1947 when signed by Governor Knous, so the department hardly had time to readjust itself to its new duties. About 30 wells were inspected and several trips were made to Rangely Field to investigate fatal accident cases.

The Bureau tested or had tested at the School of Mines or Boulder University, 338 specimens. The actual contents of the specimens are not given, but only their names and whether they are in commercial quantities or not. 133 small collections of characteristic Colorado minerals were distributed. 402 letters for the Colorado Geological Survey Board and 822 letters for the Bureau of Mines were answered.

The inspectors made 362 inspections with complete reports, and 1,369 visits and inspections without complete reports. This does not include visits and inspections made by the inspectors accompanied by the Commissioner, who tries to cover the entire territory at least once or twice a year.

Following is a list of all the mineral producing counties, their population, area, mineral production, number of mines, mills, quarries, and plants worked, with the average daily man shifts during 1947. The production of carnotite and vanadium is not included in the total mineral production by request of the U. S. Atomic Energy Commission.

Adams County

Population, 21,389	Area, 1,247 Square Miles
14th county in production of Gold.....	\$ 13,545.00
26th county in production of Silver.....	58.00
The entire production obtained on Clear Creek in washing sand and gravel for building material.	
33rd county in total mineral production.....	\$13,603.00

Boulder County

Population, 33,896	Area, 753 Square Miles
10th county in production of Gold.....	\$ 72,065.00
16th county in production of Silver.....	12,996.00
17th county in production of Copper.....	2,310.00
14th county in production of Lead.....	23,285.00
Fluorspar	\$562,013.00
Tungsten (estimate)	300,000.00
9th county in total mineral production.....	\$972,669.00
Average daily man shifts—192 men employed in 18 mines.	

Chaffee County

Population, 7,191	Area, 1,039 Square Miles
16th county in production of Gold.....	\$ 10,500.00
11th county in production of Silver.....	44,346.00
5th county in production of Copper.....	55,146.00
17th county in production of Lead.....	6,840.00
13th county in production of Zinc.....	16,307.00
Fluorspar	\$250,000.00
Feldspar	52,000.00
Limestone (estimate)	600,000.00
Granite (estimate)	10,000.00
8th county in total mineral production.....	\$1,045,139.00
Average daily man shifts—139 employed in 7 mines, 5 quarries and 1 mill.	

Clear Creek County

Population, 2,454	Area, 394 Square Miles
7th county in production of Gold.....	\$101,885.00
7th county in production of Silver.....	151,886.00
12th county in production of Copper.....	8,505.00
9th county in production of Lead.....	134,467.00
10th county in production of Zinc.....	38,709.00
16th county in total mineral production.....	\$435,452.00
Average daily man shifts—162 employed in 2 mills and 19 mines.	

Conejos County

Population, 9,537	Area, 1,271 Square Miles
Turquoise (estimate)	\$ 30,000.00
31st county in total mineral production.....	\$30,000.00
Average daily man shifts—19 employed in 1 mine.	

Custer County

Population, 1,578	Area, 737 Square Miles
22nd county in production of Gold.....	\$ 1,225.00
13th county in production of Silver.....	24,862.00
19th county in production of Copper.....	861.00
12th county in production of Lead.....	32,112.00
11th county in production of Zinc.....	27,761.00
20th county in total mineral production.....	\$86,821.00
Average daily man shifts—18 employed in 5 mines.	

Delta County

Population, 13,653	Area, 1,157 Square Miles
Soil Conditioner	\$ 12,500.00
34th county in total mineral production.....	\$12,500.00
Average daily man shifts—4 employed in 1 quarry.	

Dolores County

Population, 2,054	Area, 1,028 Square Miles
20th county in production of Gold.....	\$ 3,640.00
9th county in production of Silver.....	112,400.00
7th county in production of Copper.....	45,591.00
4th county in production of Lead.....	588,168.00
4th county in production of Zinc.....	789,682.00
7th county in total mineral production.....	\$1,539,481.00
Average daily man shifts—177 employed in 7 mines.	

Douglas County

Population, 3,044	Area, 843 Square Miles
26th county in production of Gold.....	\$ 105.00
Feldspar	\$ 46,995.00
Silica Sand	5,437.50
Limestone	894.00
Clay	29,147.00
23rd county in total mineral production.....	\$82,578.50
Average daily man shifts—21 employed in 7 quarries.	

Eagle County

Population, 4,546	Area, 1,685 Square Miles
11th county in production of Gold.....	\$ 32,760.00
5th county in production of Silver.....	211,183.00
3rd county in production of Copper.....	101,115.00
8th county in production of Lead.....	265,968.00
1st county in production of Zinc.....	3,996,250.00
2nd county in total mineral production.....	\$4,607,276.00
Average daily man shifts—339 employed in 1 mine.	

El Paso County

Population, 61,234	Area, 2,158 Square Miles
Limestone	\$ 81,257.27
Sand	669.70
Clay	3,081.00
21st county in total mineral production.....	\$85,007.97
Average daily man shifts—190 employed in 2 mills and 5 quarries.	

Fremont County

Population, 17,352	Area, 1,562 Square Miles
24th county in production of Gold.....	\$ 280.00
24th county in production of Silver.....	536.00
14th county in production of Copper.....	4,683.00
20th county in production of Lead.....	1,267.00
14th county in production of Zinc.....	14,662.00
Feldspar and Mica	\$ 74,737.75
Gypsum	32,679.00
Ganister	25,376.00
Silica	2,490.00
Clay	41,797.00
Travertine	34,820.00
Marble	10,600.00
Dolomite	215,000.00
Limestone	354,523.00
12th county in total mineral production.....	\$813,450.75
Average daily man shifts—658 employed in 31 quarries, 3 mines and 3 mills.	

Garfield County

Population, 9,253	Area, 2,994 Square Miles
18th county in production of Gold.....	\$ 4,515.00
21st county in production of Silver.....	1,666.00
18th county in production of Lead.....	3,816.00
15th county in production of Zinc.....	8,142.00
Limestone	\$ 18,000.00
28th county in total mineral production.....	\$36,139.00
Average daily man shifts—209 employed in 1 quarry and 4 mines. (These man shifts include 34 employed in oil shale mine.)	

Gilpin County

Population, 799	Area, 149 Square Miles
15th county in production of Gold.....	\$ 10,570.00
19th county in production of Silver.....	4,045.00
18th county in production of Copper.....	1,071.00
16th county in production of Lead.....	20,160.00
16th county in production of Zinc.....	6,900.00
27th county in total mineral production.....	\$42,746.00
Average daily man shifts—43 employed in 8 mines.	

Grand County

Population, 3,587	Area, 1,866 Square Miles
28th county in production of Gold.....	\$ 35.00
37th county in total mineral production.....	\$35.00

Gunnison County

Population, 4,592	Area, 3,242 Square Miles
13th county in production of Gold.....	\$ 15,575.00
10th county in production of Silver.....	57,104.00
11th county in production of Copper.....	9,786.00
6th county in production of Lead.....	433,584.00
7th county in production of Zine.....	388,079.00
Feldspar	\$ 19,000.00
10th county in total mineral production.....	\$923,128.00
Average daily man shifts—133 employed in 8 mines, 1 quarry and 1 placer.	

Hinsdale County

Population, 209	Area, 1,057 Square Miles
27th county in production of Gold.....	\$ 70.00
25th county in production of Silver.....	279.00
20th county in production of Copper.....	630.00
22nd county in production of Lead.....	14.00
35th county in total mineral production.....	\$993.00
Average daily man shifts—3 employed in 1 mine.	

Jackson County

Population, 1,727	Area, 1,623 Square Miles
27th county in production of Silver.....	\$ 7.00
21st county in production of Copper.....	336.00
36th county in total mineral production.....	\$343.00
Average daily man shifts—7 employed in 1 mine.	

Jefferson County

Population, 34,053	Area, 786 Square Miles
19th county in production of Gold.....	\$ 4,060.00
22nd county in production of Silver.....	1,132.00
8th county in production of Copper.....	28,980.00
Clay	\$201,274.00
Crushed Rock	195,294.00
Feldspar	5,195.00
15th county in total mineral production.....	\$435,935.00
Average daily man shifts—829 employed in 1 mine, 11 quarries and plants, and 1 placer.	

Lake County

Population, 7,809	Area, 380 Square Miles
4th county in production of Gold.....	\$ 607,845.00
4th county in production of Silver.....	237,045.00

6th county in production of Copper.....	45,990.00
1st county in production of Lead.....	1,238,256.00
3rd county in production of Zinc.....	1,106,070.00
Molybdenum (estimate)	\$10,000,000.00
1st county in total mineral production.....	\$13,235,206.00
Average daily man shifts—1,123 employed in 1 placer, 3 mills and 16 mines.	

La Plata and Montezuma Counties

La Plata population, 7,858	Area, 1,689 Square Miles
Montezuma population, 11,820	Area, 2,095 Square Miles
12th counties in production of Gold.....	\$ 31,220.00
23rd counties in production of Silver.....	876.00
22nd counties in production of Copper.....	252.00
19th counties in production of Lead.....	1,498.00
19th counties in production of Zinc.....	920.00
29th counties in total mineral production.....	\$34,766.00
Average daily man shifts—28 employed in 4 mines.	

Larimer County

Population, 30,170	Area, 2,619 Square Miles
Limestone	\$104,759.00
Alabaster	2,750.00
Gypsum	83,320.00
Feldspar (estimate)	18,000.00
18th county in total mineral production.....	\$208,829.00
Average daily man shifts—222 employed in 6 quarries and plants.	

Las Animas County

Population, 25,980	Area, 4,794 Square Miles
Clay (estimate)	\$ 60,000.00
25th county in total mineral production.....	\$60,000.00
Average daily man shifts—15 employed in 1 quarry and 1 plant.	

Mineral County

Population, 625	Area, 921 Square Miles
17th county in production of Gold.....	\$ 8,579.00
3rd county in production of Silver.....	287,529.00
11th county in production of Copper.....	9,786.00
11th county in production of Lead.....	94,810.00
18th county in production of Zinc.....	1,610.00
Fluorspar	\$254,000.00
14th county in total mineral production.....	\$656,314.00
Average daily man shifts—114 employed in 4 mines.	

Montrose County

Population, 7,858	Area, 2,095 Square Miles
23rd county in production of Gold.....	\$ 350.00
17th county in production of Silver.....	7,042.00
9th county in production of Copper.....	25,032.00
30th county in total mineral production.....	\$32,424.00
Average daily man shifts—99 employed in 20 mines and 1 mill.	

Mesa County

Population, 33,791

Area, 3,163 Square Miles

Vanadium, no production recorded.

Average daily man shifts—2 employed in 1 mine.

Otero County

Population, 24,311

Area, 1,267 Square Miles

Alabaster\$ 14,000.00

32nd county in total mineral production.....\$14,000.00

Average daily man shifts—12 employed in 1 quarry and 1 mill.

Ouray County

Population, 1,720

Area, 540 Square Miles

6th county in production of Gold.....\$158,760.00

8th county in production of Silver..... 136,552.00

4th county in production of Copper..... 56,658.00

7th county in production of Lead..... 314,539.00

8th county in production of Zinc..... 147,775.00

11th county in total mineral production.....\$814,284.00

Average daily man shifts—345 employed in 12 mines and 1 mill.

Park County

Population, 1,771

Area, 2,166 Square Miles

5th county in production of Gold.....\$529,305.00

15th county in production of Silver..... 18,905.00

15th county in production of Copper..... 4,368.00

15th county in production of Lead..... 23,083.00

9th county in production of Zinc..... 87,929.00

13th county in total mineral production.....\$663,590.00

Average daily man shifts—104 employed in 11 mines and 4 placers.

Pitkin County

Population, 1,202

Area, 974 Square Miles

25th county in production of Gold.....\$ 140.00

12th county in production of Silver..... 25,132.00

23rd county in production of Copper..... 147.00

13th county in production of Lead..... 31,738.00

17th county in production of Zinc..... 2,645.00

26th county in total mineral production.....\$59,802.00

Average daily man shifts—28 employed in 2 mines and 1 mill.

Pueblo County

Population, 73,268

Area, 2,401 Square Miles

Limestone\$ 40,585.00

Clay 98,308.00

Silica 6,070.00

Scrap Metal 107,699.00

17th county in total mineral production.....\$252,662.00

Average daily man shifts—359 employed in 10 quarries and 1 mill.

Rio Grande County

Population, 11,395	Area, 916 Square Miles
9th county in production of Gold.....	\$ 74,515.00
20th county in production of Silver.....	2,210.00
16th county in production of Copper.....	3,885.00
21st county in production of Lead.....	346.00
24th county in total mineral production.....	\$80,956.00
Average daily man shifts—18 employed in 1 mine.	

Routt County

Population, 8,344	Area, 2,330 Square Miles
No production.	
Average daily man shifts—1 employed in 1 mine.	

Saguache County

Population, 4,661	Area, 3,144 Square Miles
21st county in production of Gold.....	\$ 1,645.00
14th county in production of Silver.....	19,408.00
13th county in production of Copper.....	5,082.00
10th county in production of Lead.....	114,322.00
12th county in production of Zinc.....	27,186.00
19th county in total mineral production.....	\$167,643.00
Average daily man shifts—54 employed in 16 mines.	

San Juan County

Population, 1,049	Area, 392 Square Miles
3rd county in production of Gold.....	\$704,305.00
2nd county in production of Silver.....	377,793.00
2nd county in production of Copper.....	165,879.00
2nd county in production of Lead.....	834,782.00
6th county in production of Zinc.....	414,874.00
4th county in total mineral production.....	\$2,497,633.00
Average daily man shifts—486 employed in 31 mines and 1 mill.	

San Miguel County

Population, 2,106	Area, 1,283 Square Miles
2nd county in production of Gold.....	\$1,384,845.00
1st county in production of Silver.....	398,812.00
1st county in production of Copper.....	312,942.00
3rd county in production of Lead.....	759,067.00
5th county in production of Zinc.....	475,525.00
3rd county in total mineral production.....	\$3,331,191.00
Average daily man shifts—346 employed in 19 mines and 2 placers.	

Summit County

Population, 1,124	Area, 615 Square Miles
8th county in production of Gold.....	\$ 81,900.00
6th county in production of Silver.....	174,664.00
10th county in production of Copper.....	13,965.00

5th county in production of Lead.....	462,326.00
2nd county in production of Zinc.....	1,361,324.00
5th county in total mineral production.....	\$2,094,179.00
Average daily man shifts—205 employed in 17 mines and 2 placers.	

Teller County

Population, 2,616	Area, 544 Square Miles
1st county in production of Gold.....	\$2,035,530.00
18th county in production of Silver.....	6,208.00
Feldspar	\$ 21,550.00
6th county in total mineral production.....	\$2,063,288.00
Average daily man shifts—430 employed in 34 mines, 2 quarries and 1 mill.	

MINE PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN COLORADO IN 1947

Gold	\$ 5,889,765
Silver	2,314,676
Lead	5,384,448
Copper	903,000
Zinc	8,911,350
Total Value	<hr/> \$23,403,239

HISTORICAL NOTE

The Bureau of Mines of the State of Colorado was established by an act of the Tenth General Assembly, approved March 30, 1895. This act repealed a previous act creating an "Inspector of Metalliferous Mines," which was passed in 1889. The Bureau of Mines law established the office of Commissioner of Mines, provided for in the State Constitution, and charged him, among other things, with the supervision of metal mine inspection and the enforcement of laws relating to safety and health in metal mines. Subsequently this was broadened to include "any ore mill, sampling works, smelter, metallurgical plant, rock quarry, clay pit, railroad tunnel, rock excavation or mine of whatsoever kind or character except coal mines." The Commissioner of Mines was also charged "as he has opportunity and means" to collect mineral specimens and exhibit the same, to collect books relating to mining and geology, to collect and preserve data regarding mining methods, mining costs, milling, metallurgy, geology, mineral deposits of all kinds, and so on. Aside from the purchase of the Elsner collection of minerals, very little "opportunity and means" has been granted to the Commissioners for anything except inspection work. A strong effort is being made at this time not only to make mining as near absolutely safe as possible but to help and encourage it in every legitimate way possible. The present activities of the Bureau of Mines are treated elsewhere in this report.

COMMISSIONERS OF MINES

Harry A. Lee.....	May 11, 1895-May 10, 1903
E. L. White.....	May 10, 1903-May 10, 1907
T. J. Dalzell.....	May 10, 1907-May 10, 1911
T. R. Henahan.....	May 10, 1911-May 10, 1915
Fred Carroll.....	May 10, 1915-June 1, 1919
Horace F. Lunt.....	June 1, 1919-June 1, 1923
John T. Joyce.....	June 1, 1923-June 1, 1927
John T. Joyce.....	June 1, 1927-June 1, 1931
John T. Joyce.....	June 1, 1931-June 1, 1935
John T. Joyce.....	June 1, 1935-June 12, 1939
Edward P. Arthur.....	June 12, 1939-Aug. 26, 1943
Fred Jones.....	Sept. 27, 1943

PUBLICATIONS OF THE BUREAU OF MINES

BULLETINS

- Bulletin No. 1, Recommendations for Safety Appliance in Mining, Harry A. Lee, Commissioner of Mines, 1896.
- Bulletin No. 2, Precious Metal Production for the Year 1898, Harry A. Lee, Commissioner of Mines, 1899.
- Bulletin No. 3, Mining Laws, Relative to Bureau of Mines Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1899.
- Bulletin No. 4, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1901.
- Bulletin No. 5, Precious Metal Production, Harry A. Lee, Commissioner of Mines, 1902.
- Bulletin No. 6, Regulations Relative to the Construction, Equipment and Operation of Metalliferous Mines, Mills and Metallurgical Plants, Recommendations and Mineral Production for 1905, E. L. White, Commissioner of Mines, 1906.
- Bulletin No. 7, Federal and State Laws Relating to Mining, Fred Carroll, Commissioner of Mines, 1916.
- Supplement to Bulletin No. 7, Mining Laws Enacted by the Twenty-first General Assembly, Fred Carroll, Commissioner of Mines, 1917.
- Supplement No. 2 to Bulletin No. 7, Amendments to the Mining Laws Enacted by the Twenty-second General Assembly, Horace F. Lunt, Commissioner of Mines, 1919.
- Supplement No. 3 to Bulletin No. 7, Amendments to Laws Relating to Mining Enacted by the Twenty-third General Assembly, Horace F. Lunt, Commissioner of Mines, 1921.
- Supplement No. 4 to Bulletin No. 7, Amendments to Laws Relating to Mining Enacted by the Twenty-fourth General Assembly, Horace F. Lunt, Commissioner of Mines, 1923.
- Bulletin No. 8, The Oil Shales of Northwestern Colorado, Horace F. Lunt, Commissioner of Mines, 1919.
- Bulletin No. 9, Mine Safety Standards, Horace F. Lunt, Commissioner of Mines, 1920. Out of print, now embraced in Bulletin No. 11.
- Bulletin No. 11, Federal and State Laws Relating to Mining, John T. Joyce, Commissioner of Mines, 1931.
- Bulletin No. 12, Mining Laws of Colorado, Edward P. Arthur, Commissioner of Mines, 1942.
- Bulletin No. 13, Mining Laws of Colorado, Fred Jones, Commissioner of Mines, 1946.

REPORTS

- Report of Bureau of Mines, Colorado, from its establishment in May, 1895, to November 30, 1896, Harry A. Lee, Commissioner of Mines, 1896.
- Report for the Year, 1897, Harry A. Lee, Commissioner of Mines, 1898.
- Report for the Year, 1898, Harry A. Lee, Commissioner of Mines, 1899.
- Biennial Report for the Years 1899-1900, Harry A. Lee, Commissioner of Mines, 1900.
- Biennial Report for the Years 1901-1902, Harry A. Lee, Commissioner of Mines, 1903.
- Biennial Report for the Years 1903-1904, E. L. White, Commissioner of Mines, 1905.
- Biennial Report for the Years 1905-1906, E. L. White, Commissioner of Mines, 1907.
- Biennial Report for the Years 1907-1908, T. J. Dalzell, Commissioner of Mines, 1909.
- Biennial Report for the Years 1909-1910, T. J. Dalzell, Commissioner of Mines, 1911.
- Biennial Report for the Years 1911-1912, T. R. Henahen, Commissioner of Mines, 1913.
- Biennial Report for the Years 1913-1914, T. R. Henahen, Commissioner of Mines, 1914.
- Biennial Report for the Years 1915-1916, Fred Carroll, Commissioner of Mines, 1916.
- Biennial Report for the Years 1917-1918, Fred Carroll, Commissioner of Mines, 1919.
- Annual Report for the Year 1919, Horace F. Lunt, Commissioner of Mines, 1920.
- Annual Report for the Year 1920, Horace F. Lunt, Commissioner of Mines, 1921.
- Annual Report for the Year 1921, Horace F. Lunt, Commissioner of Mines, 1922.
- Annual Report for the Year 1922, Horace F. Lunt, Commissioner of Mines, 1923.
- Annual Report for the Year 1923, John T. Joyce, Commissioner of Mines, 1924.
- Annual Report for the Year 1924, John T. Joyce, Commissioner of Mines, 1925.
- Annual Report for the Year 1925 was fully prepared but because of lack of funds was not printed. The manuscript is on file in the office of the State Bureau of Mines.
- Annual Report for the Year 1926, John T. Joyce, Commissioner of Mines, 1927.

- Annual Report for the Year, 1927, John T. Joyce, Commissioner of Mines, 1928.
- Annual Report for the Year 1928, John T. Joyce, Commissioner of Mines, 1929.
- Annual Report for the Year, 1929, John T. Joyce, Commissioner of Mines, 1930.
- Annual Report for the Year 1930, John T. Joyce, Commissioner of Mines, 1931.
- Annual Report for the Year, 1931, John T. Joyce, Commissioner of Mines, 1932.
- Annual Report for the Year 1932, John T. Joyce, Commissioner of Mines, 1933.
- Annual Report for the Year 1933, John T. Joyce, Commissioner of Mines, 1934.
- Annual Report for the Year 1934, John T. Joyce, Commissioner of Mines, 1935.
- Annual Report for the Year 1935, John T. Joyce, Commissioner of Mines, 1936.
- Owing to lack of funds the 1936 Annual Report of the State Bureau of Mines was not published.
- Annual Report for the Year 1937, John T. Joyce, Commissioner of Mines, 1938.
- Owing to lack of funds the 1938 Annual Report of the State Bureau of Mines was not published.
- Annual Report for the Year 1939, Edward P. Arthur, Commissioner of Mines, 1940.
- Annual Report for the Year 1941, Edward P. Arthur, Commissioner of Mines, 1942.
- Annual Report for the Years 1942 and 1943, Fred Jones, Commissioner of Mines, 1944.
- List of Mines for the Year 1944, Fred Jones, Commissioner of Mines, 1945.
- List of Mines for the Year 1945, Fred Jones, Commissioner of Mines, 1946.
- Annual Report for the Year 1946, Fred Jones, Commissioner of Mines, 1947.

At the time this report goes to press, there are available for distribution copies of the Annual Reports for 1921, 1922, 1928, 1929, 1932 and 1946. The 1930, 1931, 1933, 1934, 1935, 1937, 1939, 1942 and 1943 Annual Reports are out of print. The publications not mentioned in this paragraph are exhausted, but copies may be consulted in many of the public, state and college libraries throughout the country.

Note—The Colorado Geological Survey has published a number of geological reports and maps, a list of which may be obtained from the head of the Geology Department of the University of Colorado, Boulder, Colorado.

FATAL ACCIDENTS, 1947

Underground

April 9, John Stark of Cripple Creek, age 46, married, superintendent, employed by the Cresson Cons. Gold Mining and Milling Company of Cripple Creek, came to his death from suffocation by natural gases. Carelessness of injured.

April 12, R. P. Floyd of Silverton, age 38, married, miner, employed by the Shenandoah-Dives Mining Company of Silverton, was killed instantly when he fell down an ore pass. Carelessness of injured.

May 1, Frank Begluitti of Leadville, age 24, single, motorman, employed by R. L. Jones of Leadville, was killed instantly when caught between motor and chute. Unavoidable accident.

June 12, Ted Lambert of Shiprock, New Mexico, age 28, single, slusher operator, employed by Rico Argentine Mining Company of Rico, was killed instantly by fall of rock. Accidental.

September 10, Joe E. Craven of Climax, age 24, married, slusher operator, employed by the Climax Molybdenum Company of Climax, was killed instantly by fall of rock. Unavoidable accident.

September 26, Ruben Wesander of Ontonagon, Michigan, age 23, single, machineman, employed by the Emperius Mining Company of Creede, was killed instantly by explosives. Unavoidable accident.

December 2, Walter Martin of Montrose, age 50, single, timber helper, employed by the Virginus Mines Company of Ouray, was killed instantly by fall of rock. Accidental.

Shaft

September 5, George Desnica of Lakewood, Colorado, age 47, married, shaftman, employed by the Resurrection Mining Company of Leadville, was killed instantly by falling down the shaft. Carelessness of injured.

Placer

August 15, Thomas Glendon Wooden of Fairplay, age 31, single, drag line operator, employed by the Timberline Dredging Company of Fairplay, was killed instantly by a falling object. Carelessness of injured.

September 25, Lawrence L. Newman, Jr., of Leadville, age 25, single, oiler, employed by the General Gold Corporation of Leadville, was crushed in machinery. Death was instantaneous. Inexperience.

Tunnels, Dams, etc.

June 23, Charles Betz of Lafayette, Colorado, employed by the Vinnell Construction Company on the Big Thompson project, drilled into a missed hole and died the following day.

DAYS OF EMPLOYMENT IN AND ABOUT MINES, MILLS, SMELTERS, QUARRIES AND PLACERS,
AND NUMBER OF MEN KILLED AND INJURED PER 10,000 DAYS OF EMPLOYMENT DURING THE
YEAR 1947.

1947	Days of Employment	Fatal		Partial Disability		Time Lost Over 14 Days		Time Lost Under 14 Days	
		No. of Acci- dents	Rate Per 10,000 Days	No. of Acci- dents	Rate Per 10,000 Days	No. of Acci- dents	Rate Per 10,000 Days	No. of Acci- dents	Rate Per 10,000 Days
Underground	701,477	8	.1140	6	.0855	158	2.252	310	4.419
Surface	271,571	..	....	2	.0736	44	1.620	110	4.050
Mills	310,533	..	....	2	.0643	20	.6439	32	1.030
Smelters	96,508	..	....	1	.1036	2	.2072	3	.3108
Quarries	373,102	..	....	..	....	18	.4824	26	.6968
Placers	16,255	2	1.230	..	....	7	4.306	8	4.921

Note: This table does not include the men employed in tunnels, road work, dams, etc.

LIST OF OPERATING MINES IN VARIOUS COUNTIES IN COLORADO OPERATING MINES IN BOULDER COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Alpine Horn.....	Sugar Loaf.....	Philip and Lawrence Ward.....	965 24th St., Boulder.....	Gold, Silver
Argo.....	Jamestown.....	H. M. Williamson & Son.....	728 U. S. Nat'l Bank Bldg., Denver 2.....	Fluorspar
Big Horn.....	Gold Hill.....	Carl Egle and James Pastora.....	4616 Alcott St., Denver 11.....	Gold, Silver
Black Cloud (m).....	Gold Hill.....	Slide Mines, Inc.....	401 Security Bldg., Denver 2.....	Gold, Silver, Lead, Zinc
Burlington (m).....	Jamestown.....	General Chemical Division, Allied Chemical & Dye Corp.....	40 Rector St., New York City.....	Fluorspar
Cash.....	Gold Hill.....	Henna Mines, Inc.....	2224 15th St., Boulder.....	Gold, Silver
Comstock.....	Nederland.....	Pandora Metals, Inc.....	209 E & C Bldg., Denver 2.....	Silver, Lead, Zinc
Emmett, Blue Jay and Argo.....	Jamestown.....	H. M. Williamson & Son.....	728 U. S. Nat'l Bank Bldg., Denver 2.....	Fluorspar
Herald.....	Sugar Loaf.....	Maud A. Coughlin.....	Sugar Loaf.....	Gold, Silver
Home Sweet Home and Little Johnny.....	Boulder.....	Aaron Stromberg and W. R. Griswald.....	1910 Grove St., Boulder.....	Gold, Silver, Lead
Hurricane Tunnel (m).....	Nederland.....	Firth-Sterling Steel & Carbide Corp., Wolf Tongue Division.....	Box 25, Boulder.....	Tungsten
Idaho Tunnel (m).....	Nederland.....	Cons. Caribou Silver Mines, Inc.....	630 Radio City, New York City.....	Silver, Lead
John Jay.....	Jamestown.....	Last Chance Leasing Company.....	1920 15th St., Boulder.....	Gold, Silver
Melvin.....	Boulder.....	Front Range Mines, Inc.....	424 Cont'l Oil Bldg., Denver.....	Gold, Silver
Railroad Boy.....	Boulder.....	Colorado Minerals, Inc.....	Box 282, Boulder.....	Gold, Silver, Lead
Red Signe.....	Boulder.....	George H. Teal.....	3134 6th St., Boulder.....	Tungsten
Smuggler.....	Lyons.....	J. E. Stanton and G. R. Renfro.....	1602 Grove St., Boulder.....	Gold, Silver

(m) Mill operated in connection with mine.

OPERATING MINES IN CHAFFEE COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Browns Canyon.....	Salida.....	General Chemical Division Allied Chemical & Dye Corp.....	40 Rector St., New York City.....	Fluorspar
Colorado Fluorspar (m).....	Salida.....	Colorado Fluorspar Mines, Inc.....	125 E. 1st St., Salida.....	Fluorspar
Fluorspar, Inc.....	Salida.....	Fluorspar, Inc.....	Salida.....	Fluorspar
Garfield.....	Salida.....	S. E. Burleson and Assoc.....	Box 387, Salida.....	Silver, Copper, Lead, Zinc
Madonna.....	Salida.....	Utze Lode Company.....	2nd & F Sts., Salida.....	Gold, Silver, Cop- per, Lead, Zinc

OPERATING MINES IN CLEAR CREEK COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Anamosa	Lawson	Colorado Mines Company	1328 Dayton St., Aurora	Silver, Lead, Zinc
Anglo	Georgetown	Anglo Saxon Mines, Inc.	Georgetown	Gold, Silver, Lead
Ben Harrison	Idaho Springs	Harrison-Croesus Mining Co.	2943 Wyandot St., Denver 11	Gold, Silver, Lead, Zinc
Dixie (m)	Idaho Springs	Giles and Company	4663 Humboldt St., Denver 16	Gold, Silver
Franklin	Idaho Springs	Franklin Mining Co., Inc.	U. S. Nat'l Bank Bldg., Denver 2	Gold, Silver, Lead, Zinc
Gold Fissure	Empire	P. M. Leasers	Box 401, Idaho Springs	Gold, Silver, Lead, Zinc
Grizzly Gulch	Silver Plume	Lupton Mining Company	1021 Monroe St., Denver 6	Gold, Silver, Copper
Humboldt (m)	Idaho Springs	Mary Foster Humboldt Company	Lakewood	Gold, Silver, Lead, Zinc
Jo Reynolds	Lawson	Chas. O. Parker and Assoc.	1901 Lawrence St., Denver 2	Silver, Lead, Zinc
Kitty Clyde	Idaho Springs	R. E. Hostetter	Idaho Springs	Gold, Silver, Lead
Lexington	Idaho Springs	Lexington Mines Company	Idaho Springs	Gold, Silver
Lombard (m)	Idaho Springs	Lombard Mining Company	Idaho Springs	Gold, Silver
Mattie	Idaho Springs	Front Range Mines, Inc.	424 Cont'l Oil Bldg., Denver 2	Gold, Silver
Red Elephant	Lawson	Red Elephant Metals, Inc.	Idaho Springs	Gold, Silver, Lead, Zinc
Shafter	Idaho Springs	C. O. and D. G. Withrow	1726 Krameria St., Denver 6	Gold, Silver, Lead
Silver King	Dumont	Ellis P. Lupton	Box 498, Georgetown	Gold, Silver, Lead, Zinc
Smuggler (m)	Silver Plume	Smuggler Mining Company	1901 Lawrence St., Denver 2	Gold, Silver, Lead, Zinc
Terrible	Silver Plume	Gold Mines Consolidated	Central City	Gold, Silver, Lead, Zinc
Tyone	Idaho Springs	W. D. Fenicle and Assoc.	Idaho Springs	Gold, Silver, Lead

OPERATING MINE IN CONEJOS COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
King Turquoise (m)	Manassa	Mr. and Mrs. Chas. G. King	Albuquerque, New Mexico	Turquoise

OPERATING MINES IN CUSTER COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Bull Domingo	Westcliffe	Bull Domingo Mines Syndicate	Westcliffe	Silver, Lead, Zinc
Defender Shaft	Westcliffe	Henning, Kettle and Walker	Westcliffe	Silver, Lead

First Iowa.....	Westcliffe.....	Jack Best.....	Silver Cliff.....	Silver, Lead, Zinc
Lady Franklin.....	Westcliffe.....	Beardsley and Townsend.....	Exchange Nat'l Bank Bldg., Colorado Springs.....	Silver, Lead, Zinc
Womack Shaft.....	Querida.....	H. O. Womack.....	Silver Cliff.....	

OPERATING MINES IN DOLORES COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Abkeeah Tunnel.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc
Atlantic Cable.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc
Larson Tunnel.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc
Mountain Spring.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Silver, Lead, Copper, Zinc
Pro Patria.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc
Revenue.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc
Rico Argentine (m).....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc
St. Louis Tunnel.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc
Van Winkle.....	Rico.....	Rico Argentine Mining Company.....	132 S. Main St., Salt Lake City, Utah.....	Gold, Silver, Copper, Lead, Zinc

OPERATING MINE IN EAGLE COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Eagle (m).....	Gilman.....	The New Jersey Zinc Company, Empire Zinc Division.....	160 Front St., New York City.....	Gold, Silver, Copper, Lead, Zinc

OPERATING MINES IN FREMONT COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Cotopaxi	Cotopaxi	Horseshoe Mining Company	Canon City	Copper, Lead, Zinc
Horseshoe	Grape Creek	Horseshoe Mining Company	Canon City	Lead, Zinc
Isabell Shaft	Canon City	Horseshoe Mining Company	Canon City	Gold, Copper, Lead, Zinc

OPERATING MINES IN GARFIELD COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Garfield	Rifle	Garfield Vanadium Company	Collbran	Vanadium
Grand View	Rifle	E. R. Parker	Rifle	Lead Carbonate
Rifle Vanadium (m)	Rifle	U. S. Vanadium Corporation	30 E. 42nd St., New York City 17	Vanadium

OPERATING MINES IN GILPIN COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Baltimore	Central City	Dr. F. G. West Developing Co.	1600 Emerson St., Denver 3	Gold, Silver
Boodile (m)	Central City	Lowell Griffith and Assoc.	Central City	Silver, Lead, Zinc
Federal (m)	Russell	J. N. Thouvenell	Central City	Gold, Silver
Gold Cup (m)	Central City	Cash Mining Company	Blackhawk	Gold, Silver, Lead, Zinc
Hayes Wheeler	Central City	Hayes Wheeler Syndicate	Idaho Springs	Gold, Silver, Copper, Lead, Zinc
Ivanhoe (m)	Central City	Success Gold Mining Company	Central City	Gold, Silver, Lead, Zinc
Prize	Central City	D. L. Russell	Central City	Gold, Silver
West Notaway	Central City	Neepor and Company	Idaho Springs	Gold, Silver, Copper, Lead

OPERATING MINES IN GUNNISON COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Akron (m)	Sargents	Callahan Zinc-Lead Company, Inc.	Empire State Bldg., New York City 1	Silver, Copper, Lead, Zinc
Carter (m)	Gunnison	Carter Mines, Inc.	Box 311, Salida	Gold, Silver, Lead
Erle	Sargents	Callahan Zinc-Lead Company, Inc.	Empire State Bldg., New York City 1	Silver, Copper, Lead, Zinc

Forest Queen (m).....	Crested Butte, Forest Queen Mines, Inc.....	Crested Butte	Gold, Silver, Copper, Lead
Gold Links.....	Ohio City.....	Ohio City	Gold, Silver, Lead
Ore and Chemical.....	Ore and Chemical Corp.....	Leadville	Gold, Silver
Star.....	Tincup.....	Box 567, Gunnison	Silver, Lead, Zinc
Thunderbird.....	Almont.....	Almont	Silver, Copper, Lead, Zinc

OPERATING MINE IN HINSDALE COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Dolores.....	Lake City.....	S. T. Larson.....	1405 Bellaire St., Denver 7.....	Silver, Copper, Lead

OPERATING MINE IN JACKSON COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Crystal Fluorspar.....	Walden.....	Crystal Fluorspar Company.....	Salida.....	Fluorspar

OPERATING MINE IN JEFFERSON COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Malachite (m).....	Golden.....	Gregory Moore and Assoc.....	Idaho Springs.....	Gold, Silver, Copper

OPERATING MINES IN LAKE COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Brattleboro.....	Evans Gulch.....	John O'Leary and Assoc.....	Leadville.....	Gold, Silver, Lead
Breece No. 1.....	Breece Hill.....	Breece Lease, John T. Joyce.....	208 E. 4th St., Leadville.....	Gold, Silver
Climax Molybdenum (m).....	Premont Pass.....	Climax Molybdenum Company.....	500 5th Ave., New York City.....	Molybdenum
Dolly B.....	Big Evans Gulch.....	McCaughan & Company.....	Leadville.....	Gold, Silver, Lead, Zinc
Forbes Tunnel.....	Big Evans Gulch.....	New Monarch Lease.....	215 W. 6th St., Leadville.....	Gold, Silver, Lead
Garbutt.....	Leadville.....	American Smelting & Refining Co.....	120 Broadway, New York City.....	Gold, Silver, Copper, Lead, Zinc
Garibaldi Tunnel.....	Calif. Gulch.....	Robert L. Jones and O. Nylene.....	Box 592, Leadville.....	Lead, Zinc
Ibex.....	Leadville.....	The Ibex Mining Company.....	118 W. 3rd St., Leadville.....	Gold, Silver, Copper, Lead, Zinc

OPERATING MINES IN LAKE COUNTY—Continued

Name of Mine	Location	Operator	P. O. Address	Character of Product
Ibex-Sunday Area	Leadville	American Smelting & Refining Co.	120 Broadway, New York City 5	
Lakewood	Leadville	Marcus Thuren	Box 283, Leadville	Gold, Silver
Resurrection (m)	Calif. Gulch	Resurrection Mining Company	14 Wall St., New York City 5	Gold, Silver
Valley	Big Evans Gulch	{ Harry Sundstrom & Company Valley Mines, Inc. Erickson and Connors	{ Box 266, Leadville Leadville Leadville	{ Copper, Lead Lead, Zinc Gold, Lead, Zinc

OPERATING MINES IN LA PLATA COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Bessie G.	Hesperus	Bert Thompson	Durango	Gold, Silver
Idaho (m)	Hesperus	DeLuche Brothers	Durango	Gold, Silver

OPERATING MINE IN MESA COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Bonanza	Naturita	Vanadium Corp. of America	420 Lexington Ave., New York City 17	Vanadium

OPERATING MINES IN MINERAL COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Emperius Operations (m)	Creede	Emperius Mining Company	Creede	Silver
Mexico (m)	Creede	New Ridge Mining Company	Creede	Silver, Lead
Solomon Tunnel	Creede	New Ridge Mining Company	Creede	Gold, Silver
Wagon Wheel Gap (m)	Creede	The Colorado Fuel & Iron Corp.	Cont'l Oil Bldg., Denver 2	Lead, Zinc
				Fluorspar

OPERATING MINES IN MONTEZUMA COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Ute	Mancos	Ute Mining Company	Durango	Gold, Silver, Lead
Waddington Red Arrow	Mancos	Waddington Red Arrow Corp.	Mancos	Gold, Silver

OPERATING MINES IN MONTROSE COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Bitter Creek.....	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Black Rock.....	Uravan	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Crown Prince.....	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Donald L.....	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Faultless	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Firecracker	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Golden Eagle.....	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Jumbo	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Little Alice.....	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Lost	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Maggie C.....	Uravan	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Carnotite
Media	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Morning Star.....	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
North Star	Uravan	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Suela	Uravan	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Raven	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Carnotite
Republican	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Ute No. 4.....	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Vanadium
Vanadite No. 1	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Carnotite
Vanadite No. 2	Naturita	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17.....	Carnotite

OPERATING MINES IN OURAY COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Bachelor	Ouray	American Zinc, Lead and Smelting Company	1600 Paul Brown Bldg., St. Louis, Missouri	Gold, Silver, Copper, Lead, Zinc
Beaver-Belfast	Ouray	Sam Thistle and Assoc.	Ouray	Gold, Silver, Copper, Lead, Zinc
Genessee-Vanderbilt	Ouray	American Smelting & Refining Co.	120 Broadway, New York City 5	Silver, Lead, Copper, Zinc
Ida L.	Ouray	Harry A. Larson	Box 151, Ouray	Gold, Silver, Copper, Lead, Zinc
Idarado (m)	Ouray	Idarado Mining Company	14 Wall St., New York City 5	Gold, Silver, Copper, Lead, Zinc
Jack Pot	Ouray	Andy Sutyak & Assoc.	Ouray	Gold, Silver, Copper, Lead, Zinc
King Lease (m)	Ouray	The King Lease, Inc.	Ouray	Gold, Silver, Copper, Lead, Zinc
New Trust Ruby	Ouray	Emil Leonardi and Assoc.	Ouray	Gold, Silver, Copper, Lead, Zinc
Portland	Ouray	American Zinc, Lead and Smelting Company	1600 Paul Brown Bldg., St. Louis, Missouri	Gold, Silver, Copper, Lead, Zinc
San Antonio	Ouray	American Zinc, Lead and Smelting Company	1600 Paul Brown Bldg., St. Louis, Missouri	Gold, Silver, Copper, Lead, Zinc
Southwest Metals	Ouray	F. C. Liebhart	Box 533, Ouray	Silver, Copper, Lead, Zinc
Virginius	Ouray	The Virginius Mines Company	Ouray	Gold, Silver, Lead, Zinc

OPERATING MINES IN PARK COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Betty Shaft	Guffey	Welch Industries, Inc.	8000 N. Nevada, Colorado Springs	Copper, Lead, Zinc
Buckskin Joe	Alma	Buckskin Joe Mines, Ltd.	Alma	Gold, Silver, Lead, Zinc
Evening Star	Mosquito Gulch	Weston Lease Mines	Box 123, Alma	Silver, Lead, Zinc
Hock Hocking	Mosquito Gulch	Weston Lease Mines	Box 123, Alma	Silver, Lead, Zinc
Iron Duke	Mosquito Gulch	J. L. Overton	Alma	Silver, Lead, Zinc

Little Ruby.....	Weston Pass.....	Harry J. Johnson and Assoc.....	Box 345, Leadville.....	Silver, Lead, Zinc
London Butte.....	Mosquito Gulch.....	Pennsylvania Project Assoc.....	c/o Harvey Tedrow, Fairplay.....	Gold, Silver, Lead, Zinc
Mineral Park.....	Alma.....	Rolf H. Luckenbach.....	702 1st Nat'l Bank Bldg., Denver 2.....	Silver, Lead, Zinc
Orphan Boy.....	Mosquito Gulch.....	M. J. Kroliecki.....	704 U. S. Nat'l Bank Bldg., Denver 2.....	Gold, Silver, Lead, Zinc
Sweet Home.....	Alma.....	Niagara Mines, Limited.....	Alma.....	Gold, Silver

OPERATING MINES IN PITKIN COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Midnight (m).....	Aspen.....	Midnight Mining Company.....	Aspen.....	Silver, Lead, Copper, Zinc
Mollie Gibson, Durant, Smuggler, Henry Clay (m).....	Aspen.....	Herron Brothers.....	Aspen.....	Silver, Lead, Zinc

OPERATING MINE IN RIO GRANDE COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Summitville (m).....	Summitville.....	Summitville Mining Company.....	Summitville.....	Gold

OPERATING MINE IN ROUTT COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Elkhead.....	Columbine.....	E. L. Stevens.....	Columbine.....	Silver, Lead, Zinc

OPERATING MINES IN SAGUACHE COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Alaska and Yukon.....	Tea Kettle Gulch.....	Cochetopa Mining Company.....	Box 571, Gunnison.....	Copper
Antoro.....	Bonanza.....	S. E. and W. E. Burleson.....	120 W. 2nd St., Salida.....	Lead, Zinc
Cliff.....	Bonanza.....	Richard Smith.....	Pratt, Kansas.....	Zinc
Cora.....	Bonanza.....	Nevada Mines Company.....	Villa Grove.....	Silver
Empress Josephine.....	Copper Gulch.....	Marveta Mining Company.....	2486 Newland St., Denver 11.....	Silver
Erie & Superior.....	Bonanza.....	Superior Mines Division, Conejos Corporation.....	701 Equitable Bldg., Denver 2.....	Gold, Silver, Copper, Lead, Zinc
Joe Wheeler.....	Alder Gulch.....	Al Turlip.....	Villa Grove.....	Silver

OPERATING MINES IN SAGUACHE COUNTY—Continued

Name of Mine	Location	Operator	P. O. Address	Character of Product
Little Jenny.....	Bonanza	{ Tom Raymond and Sons. Ben Timney.....	Bonanza	Lead, Zinc
Little Johnnie.....	Alder Gulch.....	Fullenwider Bros.	Villa Grove.	Lead, Zinc
Rawley No. 3.....	Rawley Mtn.....	Costello Lease	Villa Grove.	Silver, Lead
St. Louis.....	Bonanza	John P. Baca.....	Bonanza	Silver, Lead
Silver Creek.....	Silver Creek.....	John D. Bird.....	Baltimore, Maryland	Copper, Zinc
Warwick.....	Saguache	St. Louis Smelting & Refining Co.	Salida	Silver, Zinc
			722 Chestnut St.,	Lead, Zinc
			St. Louis, Missouri.	Silver, Copper,
Wheel of Fortune.....	Rawley Mtn.....	S. F. Wickham and Assoc.	Salida	Lead, Zinc

OPERATING MINES IN SAN JUAN COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Burrows.....	Silverton	H. G. Knapp.....	Silverton	Gold, Silver, Copper, Lead, Zinc
Esmeralda Lease on Bandora.....	Silverton	Esmeralda Lease.....	Silverton	Gold, Silver, Copper, Lead
Foursome.....	Silverton	Foursome Mining Company.....	Silverton	Gold, Silver, Copper, Lead
Good Hope (m).....	Silverton	Temple H. Cornellus.....	Silverton	Gold, Silver, Copper, Lead, Zinc
Graysill Nos. 2, 3, 4, 5.....	Engineer	Vanadium Corp. of America.....	420 Lexington Ave., New York City 17	Gold, Silver, Lead
Great Eastern.....	Silverton	Great Eastern Mining Company.....	c/o W. L. Chase, Silverton	Vanadium
Highland Mary (m).....	Silverton	Highland Mary Mines, Inc.....	Silverton	Gold, Silver, Copper, Lead
Jo and John.....	Silverton	Lark Lease.....	429 C. A. Johnson Bldg., Denver 2	Gold, Silver, Copper, Lead, Zinc
Lark.....	Silverton	Lark Lease.....	429 C. A. Johnson Bldg., Denver 2	Gold, Silver, Copper, Lead, Zinc
Lead Carbonate.....	Silverton	H. P. Ehrlinger & Associates.....	Silverton	Gold, Silver, Copper, Lead, Zinc
Little Fanny.....	Silverton	John Gilheany.....	Silverton	Gold, Silver, Copper, Lead
Little Ida.....	Silverton	Barnes Mining Company.....	Silverton	Gold, Silver, Copper, Lead
May Day.....	Silverton	Red Mountain Mining Company.....	Silverton	Gold, Silver, Copper, Lead, Zinc

Mighty Monarch.....	Silverton	.....Silverton Mining Company	.....Box 453, Silverton.....	Gold, Silver, Copper, Lead, Zinc
Mountain Queen.....	Silverton	.....Mountain Queen Lease.....	.....c/o A. R. Walker, Silverton.....	Gold, Silver, Copper, Lead
Old Green Mountain.....	Silverton	.....Denver Equipment Company	.....1400 17th St., Denver 2.....	Gold, Silver, Copper, Lead, Zinc
Osceola Lease.....	Silverton	.....O. L. Larson and Associates.....	.....Silverton.....	Gold, Silver, Copper, Lead, Zinc
Pride of the West (m).....	Silverton	.....Pride of West, Inc.....	.....1400 17th St., Denver 2.....	Gold, Silver, Copper, Lead, Zinc
San Antonio.....	Silverton	.....American Zinc, Lead and Smelting Company.....	.....1600 Paul Brown Bldg., St. Louis, Missouri.....	Gold, Silver, Copper, Lead, Zinc
Shenandoah-Dives.....	Silverton	.....Shenandoah-Dives Mining Co.....	.....616 Finance Bldg., Kansas City 6, Missouri.....	Gold, Silver, Copper, Lead, Zinc
Silver Coln.....	Silverton	.....William O. Erickson.....	.....Silverton.....	Gold, Silver, Copper, Lead, Zinc
Silver Lake.....	Silverton	.....Shenandoah-Dives Mining Co.....	.....616 Finance Bldg., Kansas City 6, Missouri.....	Gold, Silver, Copper, Lead, Zinc
Sioux City.....	Silverton	.....Royat Johnson & Assoc.....	.....Silverton.....	Gold, Silver, Copper, Lead, Zinc
Sterling.....	Silverton	.....Harry A. Ruecher, Lessee.....	.....Box 448, Silverton.....	Gold, Silver, Copper, Lead, Zinc
Topaz.....	Silverton	.....J. F. Farmer and Assoc.....	.....Silverton.....	Gold, Silver, Copper, Lead, Zinc
Treasure Mountain.....	Eureka	.....Treasure Mountain Gold Mining Company.....	.....501 Midland Savings Bldg., Denver 2.....	Gold, Silver, Copper, Lead

OPERATING MINES IN SAN MIGUEL COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Alta (m).....	Ophir	.....Alta Mines, Inc.....	.....Telluride.....	Gold, Silver, Copper, Lead, Zinc
April.....	Bull Canyon.....	.....Vanadium Corp. of America.....	.....420 Lexington Ave., New York City 17.....	Vanadium
Bear Creek.....	Telluride	.....Vanadium Corp. of America.....	.....420 Lexington Ave., New York City 17.....	Vanadium
Bear Creek No. 2.....	Telluride	.....Vanadium Corp. of America.....	.....420 Lexington Ave., New York City 17.....	Vanadium
Butterfly (mill clean-up).....	Ophir	.....Josephine McCloskey.....	.....Box 402, Telluride.....	Gold, Silver, Copper, Lead
Calamine.....	Ophir.....	.....Reed Bros.....	.....Ophir Loop.....	Gold, Silver, Lead, Zinc
Commercial.....	Telluride	.....Chas. N. Fairlamb.....	.....Telluride and Delta.....	Gold

OPERATING MINES IN SAN MIGUEL COUNTY—Continued

Name of Mine	Location	Operator	P. O. Address	Character of Product
Fall Creek.....	Placerville	Vanadium Corp. of America	420 Lexington Ave., New York City 17.	Vanadium
Leopard Creek.....	Placerville	Vanadium Corp. of America	420 Lexington Ave., New York City 17.	Vanadium
May Day.....	Egnar	Vanadium Corp. of America	420 Lexington Ave., New York City 17.	Carnotite
Mineral Mountain.....	Bull Canyon.	Vanadium Corp. of America	420 Lexington Ave., New York City 17.	Vanadium
New Dominion.....	Ophir Loop.	Beliste Bros.	Ophir Loop.	Gold, Silver, Lead, Zinc
Omega.....	Placerville	Vanadium Corp. of America	420 Lexington Ave., New York City 17.	Vanadium
Paragon.....	Ophir	Otto Beselack and R. V. Adler.	Ophir and Montrose.	Gold, Silver, Lead, Zinc
Parrot No. 1.....	Bull Canyon.	Vanadium Corp. of America	420 Lexington Ave., New York City 17.	Vanadium
Silver Bell (m).....	Ophir	Silver Bell Mines Company.	701 U. S. Nat'l Bank Bldg., Denver 2.	Gold, Silver, Copper, Lead
Slide.....	Ophir Loop.	Beliste Bros.	Ophir Loop.	Gold, Silver, Zinc
Telluride (m).....	Telluride	Telluride Mines, Inc.	Telluride	Gold, Silver, Copper, Lead, Zinc
Yellow Bird.....		Vanadium Corp. of America	420 Lexington Ave., New York City 17.	Carnotite

OPERATING MINES IN SUMMIT COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Big Four.....	Kremmling	Frances L. McDaniel.	Kremmling	Gold, Silver, Lead, Zinc
Carbonate.....	Breckenridge	Otto Oetjen and Associates.	Box 428, Breckenridge.	Gold, Silver, Lead
Chataque (m).....	Montezuma	Teller Basin Mng. & Mfg. Co.	Montezuma	Silver, Lead, Zinc
Clara.....	Montezuma	Walter N. Head.	Montezuma	Gold, Silver, Lead, Zinc
Country Boy (m).....	Breckenridge	Garvie London Gold Mng. Co.	617 Cooper Bldg., Denver 2.	Gold, Silver, Lead, Zinc
Florado (m).....	Montezuma	Florado Mining Company	925 U. S. Nat'l Bank Bldg., Denver 2.	Gold, Silver, Lead, Zinc
Ida Bell.....	Dillon	John Ulibarri and Assoc.	Dillon	Gold, Silver, Lead, Zinc
Kimberley.....	Kokomo	Dan Webster and Assoc.	Leadville	Gold, Silver, Lead, Zinc

Monarch	Breckenridge	Major Metals	Box 586, Westminster	Gold, Silver
Morning Star No. 2	Breckenridge	Joe Skarda and Ford Deeks	Box 146, Breckenridge	Silver, Lead, Zinc
Revenne	Montezuma	Robert Sayre and Assoc.	Dillon	Gold, Silver
Sally Barber	Breckenridge	F. P. Lilley and T. C. Moran	2578 So. Marion St., Denver 10	Silver, Lead, Zinc
Upper Michigan	Kokomo	Clark & Mackey Development Co.	Kokomo	Silver, Lead, Zinc
Wellington	Breckenridge	Carl Kaiser and W. L. Davenport	Breckenridge	Silver, Lead, Zinc
Willey	Kokomo	Willey Leasing Company	Kokomo	Gold, Silver, Lead, Zinc
Victory Tunnel	Kokomo	American Smelt. & Ref. Company	120 Broadway, New York City 5	Gold, Silver, Lead, Zinc
Yukon	Kokomo	Joseph G. Bott and Mike Mongone	Kokomo	Gold, Silver, Lead, Zinc

OPERATING MINES IN TELLER COUNTY, 1947

Name of Mine	Location	Operator	P. O. Address	Character of Product
Ajax	Victor	The Golden Cycle Corporation	Carlton Bldg., Colo. Springs	Gold
Anchorage Leland	Gold Hill	The Golden Cycle Corporation	Carlton Bldg., Colo. Springs	Gold
Anna J.	Bull Hill	W. R. and E. J. Hall	Victor	Gold
Bull Hill Group	Cripple Creek	United Gold Mines Company	Box 86, Colorado Springs	Gold
Cresson	Raven Hill	Cresson Cons. Gold Mng. & Mfg. Co.	Box 86, Colorado Springs	Gold
Deadwood	Victor	Deadwood Leasing Company	Cripple Creek	Gold
Dr. Jack Pot	Cripple Creek	Doctor Jack Pot Mining Co.	Box 86, Colorado Springs	Gold
El Paso	Beacon Hill	El Paso Mines, Inc.	Box 425, Cripple Creek	Gold
Elkton	Victor	Elkton Gold Mining Co.	Box 86, Colorado Springs	Gold
Empire Lee	Cripple Creek	Empire Lee Mining Company	Carlton Bldg., Colo. Springs	Gold
Gold King	Tenderfoot Hill	Gold King Mining Synd., Inc.	229 Rockland Ave., Syracuse, New York	Gold
Good Will Tunnel	Gold Hill	Grudisher and Company	Cripple Creek	Gold
Jeff Davis	Gold Hill	Miller, Hasselbach and Co.	215 N. 12th, Omaha, Nebraska	Gold
Jo Dandy	Victor	Gold Mines Cons., Inc.	317 Colorado Bldg., Denver 2	Gold
Jo Dandy Dump	Victor	Adolph Poston & Company	Canon City	Gold
LeClair	Cripple Creek	LeClair Cons. Mines Co.	Carlton Bldg., Colo. Springs	Gold
Logan Shaft	Bull Hill	A. E. Cobb	Cutbank, Montana	Gold
Mary Cashen	Victor	Front Range Mines, Inc.	424 Cont'l Oil Bldg., Denver 2	Gold
Molly Kathleen	Cripple Creek	Markley Mining & Exploration Co.	212 Lafayette Bldg., Philadelphia, Pa.	Gold
New Gold Dollar	Cripple Creek	New Gold Dollar Mining Co.	Box 86, Colorado Springs	Gold
North Burns	Bull Hill	Joslin and Company	Victor	Gold
Orpha May	Victor	Jerry Muzik	Cripple Creek	Gold
Patti Rosa	Bull Hill	Oro Mining Company	514 Equitable Bldg., Denver 2	Gold
Pharmacist Shaft	Bull Hill	Joslin and Company	Victor	Gold
Pinto Shaft	Bull Hill	The Free Coinage Gold Mng. Co.	716 N. Wasatch Ave., Colorado Springs	Gold
Portland Nos. 1 & 2	Victor	United Gold Mines Company	Box 86, Colorado Springs	Gold
Proper	Globe Hill	Shamrock Mining Company	235 Equitable Bldg., Denver 2	Gold
Rittenhouse	Gold Hill	Rittenhouse Lease	Cripple Creek	Gold

OPERATING MINES IN TELLER COUNTY—Continued

Name of Mine	Location	Operator	P. O. Address	Character of Product
Saunders Shaft	Bull Hill	Adolph Poston and Company	Canon City	Gold
School Section	Victor	T. A. Goodwin and Sons	Cripple Creek	Gold
Strong	Victor	Front Range Mines, Inc.	424 Cont'l Oil Bldg., Denver 2	Gold
Tornado	Raven Hill	Owens Brothers and Simpson	Cripple Creek	Gold
Trail Tunnel	Victor	United Gold Mines Company	Box 86, Colorado Springs	Gold
Vindicator	Bull Hill	United Gold Mines Company	Box 86, Colorado Springs	Gold
W. P. H.	Ironclad Hill	Champion Mines Company	941 Monroe St., Denver 6	Gold

OPERATING QUARRIES AND CLAY PITS, 1947

Town	County	Name	Product	Operator	Address
E. Cameron Mountain	Chaffee	Bowen Granite	Granite	John Hershberger & Assoc.	Salida
Salida	Chaffee	Calcium	Calcium Carbonate	The Calcium Company	Salida
Hecla Gulch	Chaffee	Homestead	Marble	The M & S Inc.	1333 W. Maple Ave., Denver 9
Cameron Mountain	Chaffee	Midwestern	Granite	Midwestern Granite Co.	217 I St., Salida
Monarch	Chaffee	Monarch	Limestone	The Colo. Fuel & Iron Corp.	Pueblo
Salida	Chaffee	Warner	Granite	J. N. Warner	Salida
Delta	Delta	Gapco	Sulphur	General Agricultural Products Company	P. O. Box 608, Delta
Sedalia	Douglas	Anna Lode	Feldspar	The M & S Inc.	1333 W. Maple Ave., Denver 9
Douglas	Douglas	Cramer	Feldspar	The M & S Inc.	1333 W. Maple Ave., Denver 9
Silica	Douglas	Helmer Lime	Limestone	Helmer Bros.	R. 1, Box 94, Littleton
Silica	Douglas	Helmer	Silica Sand	Helmer Bros.	R. 1, Box 94, Littleton
Castle Rock	Douglas	Johnson Clay	Plastic Clay	Stroud Weisenhunt	Castle Rock
Waterton	Douglas	Slocum Bros.	Fire Clay	The Robinson Brick & Tile Co.	500 S. Santa Fe Drive, Denver 9
Sedalia	Douglas	Watson Park	Feldspar	The M & S Inc.	1333 W. Maple Ave., Denver 9
Husted	El Paso	Hecla Clay	Plastic Clay	The Standard Fire Brick Co.	24th and Albany Sts., Pueblo
Colorado Springs	El Paso	Lennox Breed	Limestone	The Golden Cycle Corp., Lime Division	Box 86, Colorado Springs
Monument	El Paso	McKirtick Ranch	Building Sand	Glen A. Scribner	Motor Rt. 3, Colorado Springs
Monument	El Paso	Monument	Moulding Sand	Helmer Bros.	R. 1, Box 94, Littleton
Colorado Springs	El Paso	National Brick Plant	Brick	National Clay Products Co.	1224 E. Platte St., Colo. Spgs.
Canon City	Fremont	Burnito	Ganister	Ray B. Sturbaum	225 Main St., Canon City
Canon City	Fremont	C. F. & I. Dolomite	Dolomite	The Colo. Fuel & Iron Corp.	Pueblo
Caliente	Fremont	Caliente	Limestone	The Colo. Limestone Co.	Box 8, Howard
Canon City	Fremont	City Park	Feldspar	W. G. Bartlett and W. O. Hardesty	Canon City

Canon City.....	Fremont	Clinax.....	Fire Clay.....	William Sodon.....	Canon City
Coaldale.....	Fremont	Coaldale Gypsum.....	Limestone.....	James and Carocchia.....	Howard
Canon City.....	Fremont	Colonna.....	Travertine.....	Colonna and Co. of Colo.....	Canon City
Canon City.....	Fremont	Cowan Bros.....	Fire Clay.....	Cowan Brothers.....	227 Main St., Canon City
Canon City.....	Fremont	Deer Hill.....	Fire Clay.....	The Diamond Fire Brick Co.....	Canon City
Canon City.....	Fremont	Diamond Fire Brick.....	Fire Clay.....	The Diamond Fire Brick Co.....	Canon City
Cotopaxi.....	Fremont	Eggleston.....	Monumental Stone.....	Eggleston Granite.....	Cotopaxi
Canon City.....	Fremont	Ganister and Goat Hill.....	Silica.....	The Diamond Fire Brick Co.....	Canon City
8-Mile Park.....	Fremont	Hoover.....	Ganister.....	Dale Hoover.....	Canon City
Whitehorn.....	Fremont	Marrs Memorial Gray and Marrs Memorial Blue.....	Monumental Stone.....	J. A. Marrs.....	Cotopaxi
8-Mile Park.....	Fremont	Mica Hill Lode.....	Feldspar, Mica.....	Robert A. Shipley.....	Canon City
Wellsville.....	Fremont	Mountain State.....	Marble.....	Mountain State Marble Co.....	Box 2406, Denver 1
8-Mile Park.....	Fremont	Myers.....	Feldspar.....	Lockhart and Sons.....	Canon City
Wellsville.....	Fremont	Norberg Crusher Plant.....	Travertine.....	Frank H. Norberg Company.....	703 U. S. Nat'l Bank Bldg., Denver 2
Wellsville.....	Fremont	Norberg Travertine.....	Travertine.....	Frank H. Norberg Company.....	703 U. S. Nat'l Bank Bldg., Denver 2
Canon City.....	Fremont	Oak Creek.....	Feldspar.....	Winder Brothers.....	Canon City
Canon City.....	Fremont	Pig Back.....	Shale.....	The Diamond Fire Brick Co.....	Canon City
Canon City.....	Fremont	Pioneer Brick Plant.....	Fire Brick, Tile.....	The Pioneer Brick Works.....	Canon City
Portland.....	Fremont	Portland.....	Limestone, Shale.....	Ideal Cement Company.....	507 Denver Nat'l Bldg., Denver 2
Portland.....	Fremont	Portland Cement Plant.....	Cement, Plaster.....	Ideal Cement Company.....	507 Denver Nat'l Bldg., Denver 2
Wellsville.....	Fremont	Rogers Wellsville.....	Limestone.....	{George R. Rogers.....	648 H St., Salida
Parkdale.....	Fremont	Royal Park Placer.....	Silica.....	{Glenn Applebee.....	Howard
Grape Creek Bridge.....	Fremont	Sand Gulch Placer.....	Silica.....	Dale Hoover.....	Canon City
Plorence.....	Fremont	Senator.....	Gypsum.....	Nat Senator.....	Penrose
Parkdale.....	Fremont	Spilkebeck.....	Feldspar, Mica.....	The M & S Inc.....	1333 W. Maple Ave., Denver 9
Canon City.....	Fremont	Swastika.....	Fire Clay.....	The Diamond Fire Brick Co.....	Canon City
Canon City.....	Fremont	Trail Gulch Placer.....	Marble.....	Colonna & Co. of Colorado.....	Box 387, Canon City
Glenwood Springs.....	Garfield	Glenwood.....	Limestone.....	Frank H. Norberg Company.....	703 U. S. Nat'l Bank Bldg., Denver 2
Sapinero.....	Gunnison	Colorado Feldspar.....	Feldspar.....	Colorado Feldspar Company.....	c/o Joe Meyers, Canon City
Ruffalo.....	Jefferson	Big Bertha.....	Feldspar.....	The M & S Inc.....	1333 W. Maple Ave., Denver 9
Golden.....	Jefferson	Coors Porcelain Plant and Clay Mines.....	Clay.....	Coors Porcelain Company.....	Golden
Golden.....	Jefferson	Golden Clay Mines.....	Clay.....	Denver Fire Clay Company.....	2301 Blake St., Denver 2

OPERATING QUARRIES AND CLAY PITS, 1947—Continued

Town	County	Name	Product	Operator	Address
Golden	Jefferson	Golden Clay Mines and Brick Plant.	Clay	Golden Clay Mining Company.	Golden
Golden	Jefferson	Johnson Clay Mine and Strainland.	Clay	The Denver Sewer Pipe & Clay Company.	4501 Fox St., Denver 16
Golden	Jefferson	Lindsay	Clay	George W. Lindsay.	1931 Forest St., Denver 7
Golden	Jefferson	Rockwell	Clay	Geo. W. Parfet Estate, Inc.	Box 266, Golden
Golden	Jefferson	Rubey	Clay	H. M. Rubey Clay Company.	Linder Bldg., Golden
Golden	Jefferson	South Table Mountain Rock.	Crushed Rock.	City & County of Denver, Highway Department.	Municipal Bldg., Denver 2
Kittredge	Jefferson	Union Pacific.	Feldspar	The M & S Inc.	1333 W. Maple Ave., Denver 9
Golden	Jefferson	Wilson	Clay	George W. Lindsay.	1931 Forest St., Denver 7
Laporte	Larimer	Alabaster Quarry and Art Shop.	Alabaster	Douglass and Coakley.	Box 436, Ft. Collins
Laporte	Larimer	Boettcher Cement Quarries and Mill.	Limestone, Shale	Ideal Cement Company.	Denver Natl. Bldg., Denver 2
Laporte	Larimer	Clark Quarries.	Limestone	Clark Quarries, Inc.	Box 503, Ft. Collins
Virginia	Dale	Feldspar	Feldspar	Rocky Mountain Non-Metallic Corp.	R. 1, Box 320, Boulder
Laporte	Larimer	Gypsum	Gypsum	Clark Quarries, Inc.	Box 503, Ft. Collins
Loveland	Larimer	U. S. Gypsum Quarries and Plant.	Gypsum	U. S. Gypsum Company.	300 West Adams St., Chicago 6, Illinois
Trinidad	Las Animas.	Trinidad Brick Plant.	Fire Brick, Building Brick, Hollow	Tile. The Trinidad Brick and Tile Company.	Trinidad
Pueblo	Pueblo	C. F. & I. Clay Pit.	Fire Clay	The Colo. Fuel & Iron Corp.	Pueblo
Pueblo	Pueblo	C. F. & I. Crushing Plant.	Limestone	The Colo. Fuel & Iron Corp.	Pueblo
Pueblo	Pueblo	C. F. & I. Dump.	Scrap Metal	Minnequa Salvage Company.	Box 1332, Pueblo
Pueblo	Pueblo	C. F. & I. Limestone.	Limestone	The Colo. Fuel & Iron Corp.	Pueblo
Stone City	Pueblo	Nelle Helen.	Fire Clay	Arthur L. Wands.	Stone City
Rock Creek	Pueblo	Rock Creek.	Fire Clay	The Standard Fire Brick Co.	Box 654, Pueblo
Pueblo	Pueblo	Standard Fire Brick Plant.	Fire Brick, Pipe, etc.	The Standard Fire Brick Co.	Box 654, Pueblo
Stone City	Pueblo	Stone City.	Fire Clay	Pueblo Clay Products Co.	542 Thatcher Bldg., Pueblo
Pueblo	Pueblo	Summit Brick Plant.	Brick, Tile.	The Summit Pressed Brick & Tile Co.	13th and Erie, Pueblo
South of Pueblo	Pueblo	Vulcan Clay.	Fire Clay	The Standard Fire Brick Co.	Box 654, Pueblo
Woodland Park	Teller	Braugh and Spielman.	Feldspar	The M & S Inc.	1333 W. Maple Ave., Denver 9
Lake George.	Teller	Mable M.	Feldspar, Mica	The M & S Inc.	1333 W. Maple Ave., Denver 9

OPERATING OIL SHALE PLANT, 1947

Town	County	Name	Product	Operator	Address
Rifle	Garfield	Oil Shale Demonstration Plant and Oil Shale Mines	Oil Shale	U. S. Bureau of Mines	Washington, D. C.

OPERATING MILLS AND SMELTERS, 1947

Character of Plant	Town	County	Operator	Address
Wano Fluorspar	Jamestown	Boulder	Ozark-Mahoning Company	Tulsa, Oklahoma
Colo. Granite Finishing Plant	Salida	Chaffee	Colorado Granite Corp.	Salida
Monarch Mineral Products	Salida	Chaffee	Monarch Mineral Products Co.	Box 1071, Colorado Springs
Ruth Custom Mill	Idaho Springs	Clear Creek	Joseph P. Ruth	425 Cont'l Oil Bldg., Denver 2
Silver Spruce Custom	Idaho Springs	Clear Creek	LeRoy Giles and Company	Idaho Springs
Arsenic and Cadmium Refinery	Denver	Denver	American Smelting & Refining Company	120 Broadway, New York City 5
Western Feldspar	Denver	Denver	Western Feldspar Milling Co.	1333 W. Maple Ave., Denver 9
Alexite Plant	Colorado Springs	El Paso	Alexite Engineering Co.	Alexander Film Bldg., Colo. Spgs.
Golden Cycle	West Colo. Spgs.	El Paso	The Golden Cycle Corp.	Carlton Bldg., Colorado Springs
Manitou Lime Plant	Manitou	El Paso	The Golden Cycle Corp., Lime Division	Box 86, Colorado Springs
Consolidated Feldspar Mill	Canon City	Fremont	Consolidated Feldspar Corp.	1403 Trenton Trust Bldg., Trenton, New Jersey
Eichheim Mill	Parkdale	Fremont	G. H. Eichheim	Numm
Empire Zinc Sintering Plant	Canon City	Fremont	The New Jersey Zinc Co., Empire Zinc Division	160 Front St., New York City 5
Rock Wool Plant	Florence	Fremont	Rock Wool Insulating Co.	Box 231, Florence
Arkansas Valley Smelter	Leadville	Lake	American Smelting & Refining Company	120 Broadway, New York City 5
John Hamm	Leadville	Lake	John Hamm Mfg. & Mlg. Ltd.	Leadville
Leadville Milling Unit	Leadville	Lake	American Smelting & Refining Company	120 Broadway, New York City 5
Record Mill	Mosquito	Gulch	Alma Mill Incorporated	Mining Exchange Bldg., Colorado Springs
Reduction Plant	Naturita	Montrose	Vanadium Corp. of America	420 Lexington Ave., New York City 17
American Mill Nos. 1 and 2	Ouray	Ouray	American Zinc, Lead and Smelting Company	1600 Paul Brown Bldg., St. Louis, Missouri
Herron Mill	Aspen	Pitkin	Herron Bros.	Box 545, Aspen
Mica Grinding Plant	Pueblo	Pueblo	Western Non-Metallies, Inc.	330 West D St., Pueblo
Lead Carbonate	Silverton	San Juan	H. P. Ehrlinger and Fred Archibald	Silverton
No. 2 Crushing Plant	Victor	Teller	United Gold Mines Company	Box 86, Colorado Springs

TUNNELS AND ROADWORK, 1947

Name	County	Location	Company	Address
Granby Dam and Pumping Plant	Grand	Granby	Granby Construction Co.	Granby
Granby Dam Pump Canal	Grand	Grand Lake	Vinnell Company	Box 31, Alhambra, California
Dixon Canyon Dam, Horse Tooth Reservoir	Larimer	Fort Collins	U. S. Bureau of Reclamation	Washington, D. C.
Horse Tooth Canyon and Soldier Canyon Dam, Horse Tooth Reservoir	Larimer	Fort Collins	U. S. Bureau of Reclamation	Washington, D. C.
Spring Canyon Dam, Horse Tooth Reservoir	Larimer	Fort Collins	U. S. Bureau of Reclamation	Washington, D. C.
No. 2 Water Diversion Tunnel	Larimer	Loveland	Gordon Construction Co.	1900 31st St., Denver
Prospect Tunnel	Larimer	Estes Park	Lowdermilk Brothers	Box 126, Estes Park
Rams Horn Tunnel	Larimer	Estes Park	Lowdermilk Brothers	Box 126, Estes Park
Blue River Tunnel	Park	Grant	Board of Water Commissioners, City of Denver	Box 629, Denver 1
Road Project No. 300 G Units 1 and 2	San Juan	Silverton	Colorado Constructors, Inc.	725 West 39th Ave., Denver 16

OPERATING PLACERS AND DREDGES, 1947

Name	County	Location	Operator	Address
Gold Cloud	Gunnison	Crested Butte	W. O. Hyde and Assoc.	Crested Butte
K and C	Jefferson	Golden	Lee and Lyle Strange and W. J. Chelene	Central City
General Gold Corp. Dragline	Lake	Longs Gulch	General Gold Recovery Co., Ltd.	Box 923, Leadville
Alma Placer	Park	Alma	Alma Gold Recovery Co.	Leadville
Coolley Brothers Dredge	Park	Como	Coolley Brothers	Como
South Platte Dredge No. 1	Park	Fairplay	South Platte Dredging Co.	Fairplay
Timberline Dredge	Park	Fairplay	The Timberline Dredging Co.	Rm. 2710, 125 So. LaSalle St., Chicago, Illinois
Iron Springs	San Miguel	Old Ophir	A. C. McDonald & Assoc.	335 Dodge St., Delta
Parrot No. 3	San Miguel	Placerville	E. K. Miller and Sons	Placerville
Gold Boat	Summit	Breckenridge	Gold Boat Mining Company	Breckenridge
Tiger	Summit	Breckenridge	C. R. McDaniel and J. G. Welch	Breckenridge

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